

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPELLANT: Beach et al. EXAMINER: Shedrick, Charles Terrell
SERIAL NO.: 10/033,861 GROUP: 2617
FILED: 12/27/2001 CASE NO.: SBL00798-C01
TITLED: Voice and Data Wireless Communications Network and Method

Motorola, Inc.
Corporate Offices
1303 E. Algonquin Road
Schaumburg, IL 60196

APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner of Patents
P.O. Box 1450
Alexandria, Va. 22313-1450

Commissioner:

The Appellant hereby respectfully submits the following Appeal Brief in response to a Final Office Action dated July 26, 2010, and a Notice of Appeal filed herewith.

1. REAL PARTY IN INTEREST

The real party in interest in this appeal is Motorola, Inc., a Delaware Corporation.

2. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal.

3. STATUS OF CLAIMS

This is an appeal from a Final Office Action, dated July 26, 2010. Claims 24-29, 32-35, and 41 are pending and constitute the subject matter of this appeal. Claims 24-29, 32-35, and 41 are appealed.

In a first Office Action dated November 2, 2004, the Examiner rejected claims 26-37 under 35 U.S.C. §102(a) as being anticipated by US 5,329,531 (Diepstraten) and the Examiner indicated that claims 24 and 25 would be allowable if rewritten to overcome objection to claims. In an amendment dated June 7, 2005 the Appellant amended the claims 24-26, 32, and 34. Further, the Appellant canceled the claims 30, 31, 36, and 37 and added new claims 38-40.

In a second (Non-Final) Office Action dated November 28, 2008, the Examiner rejected claims 24-40 under 35 U.S.C. §102(b) as being anticipated by US 5,329,531 (Diepstraten). In an amendment dated February 3, 2009 canceled claims 38-40.

In a third Office Action (Final) dated April 30, 2009, the Examiner rejected claims 24-29 and 32-35 under 35 U.S.C. §102(b) as being anticipated by US 5,329,531 (Diepstraten). In an amendment dated October 30, 2009, the Appellant filed a Request for continued Examination (RCE) and amended claims 24-26 and 32.

In a fourth (Non-Final) Office Action dated December 24, 2009, the Examiner rejected claims 24-29 and 32-35 under 35 U.S.C. §103(a) as being unpatentable over US 5,329,531 (Diepstraten) in view of US 2007/0038751 (Jorgensen), and further in view of 2005/0058147 (Regnier). In an amendment dated April 16, 2010, claims 24-26 and 32 were amended and new claim 41 was added.

In the Final Office Action, dated July 26, 2010, the Examiner rejected claims 24-29 and 32-35 under 35 U.S.C. §103(a) as being unpatentable over US 5,329,531

(Diepstraten) in view of US 2007/0038751 (Jorgensen), and further in view of 2005/0058147 (Regnier). Further, the Examiner has rejected claim 41 under 35 U.S.C. §103(a) as being unpatentable over US 5,329,531 (Diepstraten) in view of US 2007/0038751 (Jorgensen), further in view of 2005/0058147 (Regnier), and further in view of US 6,438,135 (Tzeng). No claims are allowed.

4. STATUS OF AMENDMENTS

No amendment was filed after the final rejection of July 26, 2010. The amendment filed April 16, 2010 in response to the Non-Final Office Action of December 24, 2009 stands in this appeal. Therefore, the pending claims 24-29, 32-35, and 41 presently exist in the form prior to the Final Office Action, as duplicated in the Appendix.

5. SUMMARY OF INVENTION

Although specification citations and drawing reference numbers are inserted below in accordance with 37 C.F.R. § 41.37(v), these citations and reference numbers are merely examples of where support may be found in the specification for the terms used in this section of the Appeal Brief. The specification citations and drawing reference numbers are not to be construed as claim limitations or used to limit the scope of the claims in any way.

The present invention describes a mixed traffic voice and data communications transmitter and network. The communications network may be a wireless local area network that uses packet based communications. The communications network may include at least one access point that receives voice and other communications for transmission to terminals that are associated with the access point.

Claim 24 teaches an access point that provides voice and data communications for use in a wireless local area network having a plurality of mobile units. The access point is configured to receive signals carrying communications packets directed to particular mobile units (See page 11 lines 9-20). Further, the access point is configured to prioritize said communications packets for transmission (See page 4 lines 8-10) based on whether a current packet is a network management packet, a voice communication packet or other communication packet, wherein the network management packet is prioritized higher

than the voice communication packet (See page 17 line 32-page 18 line 3) and the voice communication packet is prioritized higher than the other communication packet (See page 16 line 29-30); the total number of packets to be transmitted to each mobile unit; and the order in which the packets were received by the access point, wherein earlier received packets have higher priority than later received packets (See page 4 lines 10-20, page 13 lines 28-31).

Claim 25 teaches a method for providing voice and data communications for use in a wireless local area network having an access point and a plurality of mobile units. The method comprises receiving signals at the access point which carry communications packets directed to particular mobile units (See page 11 lines 9-20). Further, the method includes prioritizing said communications packets for transmission (See page 4 lines 8-10) based on whether a current packet is a network management packet, a voice communication packet or other communication packet, wherein the network management packet is prioritized higher than the voice communication packet (See page 17 line 32-page 18 line 3) and the voice communication packet is prioritized higher than the other communication packet (See page 16 line 29-30); the total number of packets to be transmitted to each mobile unit; and the order in which the packets were received by the access point, wherein earlier received packets have higher priority than later received packets (See page 4 lines 10-20, page 13 lines 28-31).

Claim 26 teaches a transmitter for use in a carrier sense multiple access communications system (See page 4 lines 9-10). The transmitter is configured to receive signals carrying communications packets directed to particular receiver units. Further, the transmitter is configured to prioritize said communications packets for transmission (See page 4 lines 19-20) based on whether a current packet is a network management packet, a voice communication packet or other communication packet, wherein the network management packet is prioritized higher than the voice communication packet (See page 17 line 32-page 18 line 3) and the voice communication packet is prioritized higher than the other communication packet (See page 16 line 29-30); the total number of packets transmitted to each receiver unit; and the order in which the packets were received by the transmitter, wherein earlier received packets have higher priority than later received packets (See page 4 lines 10-20, page 13 lines 28-31). Further, the transmitter is

configured to use a contention window of a first duration for transmitting packets that are for voice communications (See Fig. 9b) and use another contention window of a second duration that is different from said first duration for transmitting other packets (See Fig. 9b).

Claim 32 is directed to a method for transmitting packets by an access point for use in a carrier sense multiple access communications systems. The method comprises receiving signals which carry communications packets directed to particular receiver (See page 11 lines 9-20). Further, the method comprises prioritizing said communications packets for transmission (See page 4 lines 19-20) based on whether a current packet is a network management packet, a voice communication packet or other communication packet, wherein the network management packet is prioritized higher than the voice communication packet (See page 17 line 32-page 18 line 3) and the voice communication packet is prioritized higher than the other communication packet (See page 16 line 29-30); the total number of packets to be transmitted to each receiver unit; and the order in which the packets were received by the access point, wherein earlier received packets have higher priority than later received packets (See page 4 lines 10-20, page 13 lines 28-31). The method further comprises using a contention window of a first duration for transmitting packets that are for voice communications and using another contention window of a second duration that is different from said first duration for transmitting other packets (See Fig. 9b).

6. ISSUES

1. Claims 24-29 and 32-35 are rejected under 35 U.S.C. §103(a) as being unpatentable over US 5,329,531 (Diepstraten) in view of US 2007/0038751 (Jorgensen), and further in view of 2005/0058147 (Regnier).

2. Claim 41 is rejected under 35 U.S.C. §103(a) as being unpatentable over US 5,329,531 (Diepstraten) in view of US 2007/0038751 (Jorgensen), further in view of 2005/0058147 (Regnier), and further in view of US 6,438,135 (Tzeng).

7. ARGUMENT

(i) Rejection under 35 U.S.C. §112, first paragraph:

None

(ii) Rejection under 35 U.S.C. §112, second paragraph:

None

(iii) Rejection under 35 U.S.C. §102:

None

(iv) Rejection under 35 USC §103.

A. Rejection under 35 U.S.C. §103(a):

a) The Examiner rejected claims 24-29 and 32-35 under 35 U.S.C. §103(a) as being unpatentable over US 5,329,531 (Diepstraten) in view of US 2007/0038751 (Jorgensen), and further in view of 2005/0058147 (Regnier).

Appellant respectfully disagrees with the statement in item 4, pages 6-7 of the Office Action dated July 26, 2010, that states “[c]onsider claims 24 and 25, Diepsraten teaches... prioritize said communication packets for transmission based on:...the total number of packets transmitted to each mobile unit (i.e., see **amount of data within available time and frame period**) (e.g., see at least **col. 2 line 15-col. 3 lines 37 and col. 6 lines 60-65**).” Appellant refers back to column 2 lines 60-64 of Diepstraten that merely describes a mechanism for providing higher access priority to an isochronous packet than to the asynchronous packet. Therefore, Diepstraten at best describes that isochronous packets have higher priority than asynchronous packets. However,

Diepstraten nowhere in the reference discloses prioritizing the packets based on total number of packets transmitted to each unit.

Further, as such, Diepstraten in col. 6 lines 60-65 describes that a base station, or communication station, that has asynchronous traffic to send, or that is arranged to communicate by way of asynchronous traffic, monitors the medium and interprets the isochronous DOWN packet 38 so as to determine *how many isochronous communication stations* are addressed and thus *how many isochronous UP packets* 42, 44 will be produced in the frame period. The stations with asynchronous traffic can then adjust their AIFS delays. Thus, an asynchronous contention window does not then overlap with any of the isochronous access delay windows. Clearly, Diepstraten in the above cited passage at best describes determining number of isochronous communication stations and thus number of isochronous UP packets, by the communication station, to avoid overlap of asynchronous contention window and isochronous delay window. However, Diepstraten nowhere in the above cited passage or the other parts of the reference teaches or suggests prioritizing the packets based on total number of packets transmitted to each communication unit. Jorgensen and Regnier also fail to remedy the deficiencies of Diepstraten. Therefore, the combination of Diepstraten, Jorgensen, and Regnier fails to teach or suggest “prioritiz[ing] said communications packets for transmission based on...the total number of packets to be transmitted to each mobile unit” as recited by Appellant’s independent claims 24 and 25.

Further, Appellant respectfully disagrees with the statement in item 4, pages 6-7 of the Office Action dated July 26, 2010, that states “[c]onsider claims 24 and 25, Diepsraten teaches... prioritize said communication packets for transmission based on:...the order in which the packets were received by the access point (e.g. see at least **col. 2 line 15-col. 3 lines 37 and col. 6 lines 60-65**) (i.e., **packet sequence and priority**).” Appellant refers back to col. 6 lines 60-65 of Diepstraten that merely describes determining number of isochronous communication stations and thus number of isochronous UP packets, by the communication station, to avoid overlap of asynchronous contention window and isochronous delay window. However, Diepstraten fails to disclose prioritizing communication packets based on the order in which the packets were received by the communication station.

Further, the Office Action on pages 2 and 3, in the section “Response to Arguments” appears to have relied on Diepstraten’s abstract as being describing or analogous to Appellant’s feature of “prioritize said communication packets for transmission based on...the order in which the packets were received by the access point.” This analogy, is however a mischaracterization. Appellant refers back to Diepstraten’s abstract that describes a base station that controls the communication between communication stations and generates regular timing periods in which *isochronous traffic is sent to the stations with a higher priority than any asynchronous traffic* pending at the beginning of each timing period. Further, once the initial isochronous traffic has accessed the medium, any further isochronous traffic retains access to the medium so that the asynchronous traffic can only occur in that part of the frame period remaining after the isochronous traffic has accessed the medium. Clearly, Diepstraten *always* gives higher priority to isochronous (voice) traffic which *does not depend on the order in which isochronous traffic and asynchronous traffic was received*. Jorgensen and Regnier also fail to remedy the deficiencies of Diepstraten. Therefore, the combination of Diepstraten, Jorgensen, and Regnier fails to teach or suggest “prioritiz[ing] said communication packets for transmission based on...*the order in which the packets were received* by the access point, wherein earlier received packets have higher priority than later received packets.” as recited by Appellant’s independent claims 24 and 25.

The above discussed remarks apply equally to the features of claims 26 and 32.

In addition, Appellant respectfully disagrees with the statement in item 4, pages 8 and 9 of the Office Action dated July 26, 2010 that states “[c]onsider claims 26 and 32...Dieprateten teaches...use a contention window of a first duration for transmitting packets that are for voice communications (**i.e., using a medium access procedure to share medium**) (e.g., see at least col. 2 line 15-col. 3 lines 37 and col. 6 lines 60-65); and use another contention window of a second duration that is different from said first duration for transmitting other packets (**i.e., see amount of data within available time, frame period and using a medium access procedure to share medium**) (e.g. see at least col. 2 line 15-col. 3 lines 37 and col. 6 lines 60-65).” Appellant refers back to col. 68-col. 7 line 2 of Diepstraten that merely describes that an asynchronous contention

window does not overlap with any of the isochronous access delay windows. However, nothing in Diepstraten relates to using a contention window of a *first duration* for transmitting asynchronous packets and using another contention window of *second duration that is different from said first duration* for transmitting isochronous packets. Jorgensen and Regnier also fail to remedy the deficiencies of Diepstraten. Therefore, the combination of Diepstraten, Jorgensen, and Regnier fails to teach or suggest “us[ing] a contention window of a first duration for transmitting packets that are for voice communications...us[ing] another contention window of a second duration that is different from said first duration for transmitting other packets” as recited by Appellant’s independent claims 26 and 32.

Therefore, Appellant respectfully submits that the previously amended independent claims 24, 25, 26, and 32 are novel and non-obvious over Diepstraten, Jorgensen, and Regnier, and are therefore deemed allowable.

Regarding dependent claims 28-29, 33, 34, and 35, because claims 28-29, 33, 34, and 35 depend directly or indirectly from independent claims 26 and 32, the Appellant respectfully submits that claims 28-29, 33, 34, and 35 are not unpatentable over the prior art of record.

b). The Examiner rejected claim 41 under 35 U.S.C. §103(a) as being unpatentable over US 5,329,531 (Diepstraten) in view of US 2007/0038751 (Jorgensen), further in view of 2005/0058147 (Regnier), and further in view of US 6,438,135 (Tzeng).

Regarding dependent claim 41, because claim 41 depend directly or indirectly from independent claim 32, the Appellant respectfully submits that claim 41 is not unpatentable over the prior art of record.

Therefore, the teachings of the cited art, in combination or alone, fail to teach or even suggest the novel and unobvious recitations of the above claims. For the foregoing reasons, Appellant believes that the claims are patentably distinct and non-obvious from all of the references of record, whether taken alone or in combination.

CONCLUSION

For the above reasons, Appellant respectfully submit that the rejection of claims 24-29 and 32-35 under 35 U.S.C. §103(a) as being unpatentable over US 5,329,531 (Diepstraten) in view of US 2007/0038751 (Jorgensen), and further in view of 2005/0058147 (Regnier) and the rejection of claim 41 under 35 U.S.C. §103(a) as being unpatentable over US 5,329,531 (Diepstraten) in view of US 2007/0038751 (Jorgensen), further in view of 2005/0058147 (Regnier), and further in view of US 6,438,135 (Tzeng) are in error and should be reversed and the claims allowed.

Respectfully submitted,
Beach et al.

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Motorola, Inc.
Law Dept. - 3rd floor
1303 E. Algonquin Rd.
Schaumburg, IL 60196

By: /Brian Mancini/
Brian M. Mancini
Attorney for Appellant
Registration No. 39,288
Phone: (847) 576-3992
FAX: (847) 576-3750

8. CLAIMS APPENDIX

1-23. (canceled).

24. (previously presented) An access point that provides voice and data communications for use in a wireless local area network having a plurality of mobile units, said access point being configured to:

- receive signals carrying communications packets directed to particular mobile units;

- prioritize said communications packets for transmission based on:

- whether a current packet is a network management packet, a voice communication packet or other communication packet, wherein the network management packet is prioritized higher than the voice communication packet and the voice communication packet is prioritized higher than the other communication packet;

- the total number of packets to be transmitted to each mobile unit; and

- the order in which the packets were received by the access point, wherein earlier received packets have higher priority than later received packets.

25. (previously presented) A method for providing voice and data communications for use in a wireless local area network having an access point and a plurality of mobile units, comprising:

receiving signals at the access point which carry communications packets directed to particular mobile units;

prioritizing said communications packets for transmission based on:

whether a current packet is a network management packet, a voice communication packet or other communication packet, wherein the network management packet is prioritized higher than the voice communication packet and the voice communication packet is prioritized higher than the other communication packet;

the total number of packets to be transmitted to each mobile unit; and

the order in which the packets were received by the access point, wherein earlier received packets have higher priority than later received packets.

26. (previously presented) A transmitter for use in a carrier sense multiple access communications system, said transmitter being configured to:

receive signals carrying communications packets directed to particular receiver units;

prioritize said communications packets for transmission based on:

whether a current packet is a network management packet, a voice communication packet or other communication packet, wherein the network management packet is prioritized higher than the voice communication packet and the voice communication packet is prioritized higher than the other communication packet;

the total number of packets transmitted to each receiver unit; and

the order in which the packets were received by the transmitter, wherein earlier received packets have higher priority than later received packets;

use a contention window of a first duration for transmitting packets that are for voice communications; and

use another contention window of a second duration that is different from said first duration for transmitting other packets.

27. (original) The transmitter of claim 26, wherein the first duration is shorter than the second duration.

28. (original) The transmitter of claim 26, wherein said transmitter is an access point of said communications system.

29. (original) The transmitter of claim 26, wherein said transmitter is a remote terminal in said communications system.

30-31. (canceled).

32. (previously presented) A method for transmitting packets by an access point for use in a carrier sense multiple access communications systems, comprising:

- receiving signals which carry communications packets directed to particular receiver units;

- prioritizing said communications packets for transmission based on:

- whether a current packet is a network management packet, a voice communication packet or other communication packet, wherein the network management packet is prioritized higher than the voice communication packet and the voice communication packet is prioritized higher than the other communication packet;

- the total number of packets to be transmitted to each receiver unit; and

- the order in which the packets were received by the access point, wherein earlier received packets have higher priority than later received packets;

- using a contention window of a first duration for transmitting packets that are for voice communications; and

- using another contention window of a second duration that is different from said first duration for transmitting other packets.

33. (original) The method of claim 32, wherein the first duration is shorter than the second duration.

34. (previously presented) The method of claim 32, wherein using said contention window of a first duration and using said another contention window of a second duration are performed at an access point in said communications system.

35. (original) The method of claim 32, wherein using a contention window of a first duration and using a contention window of a second duration are performed at a mobile unit in communications system.

36-40. (canceled).

41. (previously presented) The method of claim 32, further comprising transmitting packets in rounds, wherein in each transmission round an equal number of packets is transmitted to each receiver unit.

9. EVIDENCE APPENDIX

(none)

10. RELATED PROCEEDINGS APPENDIX

(none)